## QC ABSTRACT

**NAME OF WORK:** Improvements to Roads and Drains at Deshabandunagara and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

| SL NO | Item Of Work | Name of Test | Frequency of Test/Quantity | Executed Quantity | Number of Tests Required | Number of Tests Conducted |
|---|---|---|---|---|---|---|
| | | **Materials** | | | | |
| 1 | Cement | Fineness by dry sieving | One Test | | 1 | 1 |
| | | Finess by Air permeablity method | One Test | | 1 | 1 |
| | | Density | One Test | | 1 | 1 |
| | | Standard Consistency | One Test | | 1 | 1 |
| | | Initial Setting time | One Test | | 1 | 1 |
| | | Final Setting time | One Test | | 1 | 1 |
| | | Soundness (Le Chatelier's Method) | One Test | | 1 | 1 |
| | | Compressive Strength | One Test | | 1 | 1 |
| 2 | Coarse aggregate(40 mm down size) | SIEVE ANALYSIS | One Test | | 1 | 1 |
| | | Flakiness Index | One Test | | 1 | 1 |
| | | Elongation Index | One Test | | 1 | 1 |
| | | Specific Gravity | One Test | | 1 | 1 |
| | | Bulk Density(Loose) | One Test | | 1 | 1 |
| | | Bulk Density(Compacted) | One Test | | 1 | 1 |
| | | Water Absorption | One Test | | 1 | 1 |
| 3 | Coarse aggregate(20 mm down size) | SIEVE ANALYSIS | One Test | | 1 | 1 |
| | | Flakiness Index | One Test | | 1 | 1 |
| | | Elongation Index | One Test | | 1 | 1 |
| | | Specific Gravity | One Test | | 1 | 1 |
| | | Bulk Density(Loose) | One Test | | 1 | 1 |
| | | Bulk Density(Compacted) | One Test | | 1 | 1 |
| | | Water Absorption | One Test | | 1 | 1 |
| | | Aggregate crushing Value | One Test | | 1 | 1 |
| | | Aggregate Impact Value | One Test | | 1 | 1 |
| 4 | Fine aggregate | SIEVE ANALYSIS | One Test | | 1 | 1 |
| | | Water Absorption | One Test | | 1 | 1 |
| | | Specific Gravity | One Test | | 1 | 1 |
| | | Material finer than 75 micron | One Test | | 1 | 1 |
| 5 | Steel | Bend test | One Test | | 1 | 1 |
| | | Tensile Test | One Test | | 1 | 1 |
| | | Yield Test | One Test | | 1 | 1 |
| | | ReBend test | One Test | | 1 | 1 |
| 6 | Block(400*100*200) | BLOCK DENSITY | One Test | | 1 | 1 |
| | | WATER ABSORPTION | One Test | | 1 | 1 |
| | | DIMENSION ANALYSIS | One Test | | 1 | 1 |
| | | COMPRESSIVE STRENGTH | One Test | | 1 | 1 |
| 7 | Precast (100mm) | Core Compressive Strength | One Test | | 1 | 1 |
| | | Corrected Cylinder Compressive Strength | One Test | | 1 | 1 |
| | | Equivalent Cube Compressive Strength | One Test | | 1 | 1 |
| 8 | Precast (250mm) | Core Compressive Strength | One Test | | 1 | 1 |
| | | Corrected Cylinder Compressive Strength | One Test | | 1 | 1 |
| | | Equivalent Cube Compressive Strength | One Test | | 1 | 1 |
| 9 | PCC(M15) | Compressive Strength(7days and 28days) | 2 set /6-15 cum | 13.64 | 4 | 4 |
| 10 | RCC(M20) | Compressive Strength(7days and 28days) | 5 set /100-150 cum | 143.98 | 10 | 10 |

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore

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## TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

| | | |
|---|---|---|
| **Lab ID** | : | **CP-2022-09-28-33** **Date: 01-07-22** |
| **Customer** | : | Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore. |
| **Address** | : | Vidyaranyapura Sub Division, BBMP, Bangalore |
| **Project Name** | : | Improvements to Roads and Drains at Deshabandunagara and Surrounding Areas in Ward No. 09 (Vidyaranyapura) |
| **Agency** | : | Sri. Nagoor Lokanadha Reddy, Flat No: 102, 1st Floor, No:02, MSNR Enclave, 2nd Cross, Manorayana Palya, R T Nagar Post, Bangalore-32 |
| **Customer's Reference** | : | BBMP/EE/BTP/WO/54/2022-23 |
| **Source of Sample** | : | Sample supplied by Agency |
| **Sample Condition** | : | Satisfactory |
| **Date of Receipt** | : | 29-06-22 |
| **Sample Type** | : | Birla Super 53grade |
| **Reference to BIS codes** | : | IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification ,<br>IS 4031 (Part 1,2 3,4,5, 6,11):1988<br>IS 4031 Part 1 (RA 2021) DETERMINATION OF FINENESS BY DRY SIEVING, Clause 4.4<br>IS 4031 Part 2, (RA 2018) Determination of Fineness by Blaine Air Permeability Method, Clause 5<br>IS 4031 Part 3, (RA 2019) Determination of Soundness, Clause 5, Clause 6<br>IS 4031 Part 4, (RA 2019) Determination of Consistency of Standard Cement Paste, Clause 5<br>IS 4031 Part 5, (RA 2019) Determination of Initial & Final Setting Time, Clause 5<br>IS 4031 Part 11, (RA 2019)DETERMINATION OF DENSITY , Clause 6 |
| **Date of test** | : | 30-06-22 |
| **Environmental Conditions during test** | : | Temperature: 26°C<br>Humidity: 72% |

| Sl.No. | Physical properties | Results | Requirement as per IS 12269: 2013 |
|---|---|---|---|
| 1 | Fineness by dry sieving (%) | 2.55 | - |
| 2 | Finess by Air permeablity method ($m^2$/kg,Min) | 287.5 | 225$m^2$/kg, Min |
| 3 | Density (gm/cc) | 3.12 | - |
| 4 | Standard Consistency (%) | 28.5% | Not specified |
| 5 | Initial Setting time | 155 minutes | Not less than 30 minutes |
| 6 | Final Setting time | 260 minutes | Not more than 600 minutes |
| 7 | Soundness (Le Chatelier's Method) | 2mm | Not more than 10 mm |

* The results obtained are satisfactory as per standard requirements.

**Note:**

The results pertain to the samples received and tested.

All information furnished by Customer/Representative

Any correction in the report will make this report invalid

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Samples will be disposed after 30 days from the date of issue of test certificate

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Authorized Signatory
**Quality Manager**


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Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P. Bangalore - 97

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## TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

| | | |
|---|---|---|
| **Lab ID** | : | **CP-2022-09-28-33** **Date: 28-07-22** |
| **Customer** | : | Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore. |
| **Address** | : | Vidyaranyapura Sub Division, BBMP, Bangalore |
| **Project Name** | : | Improvements to Roads and Drains at Deshabandunagara and Surrounding Areas in Ward No. 09 (Vidyaranyapura) |
| **Agency** | : | Sri. Nagoor Lokanadha Reddy, Flat No: 102, 1st Floor, No:02, MSNR Enclave, 2nd Cross, Manorayana Palya, R T Nagar Post, Bangalore-32 |
| **Customer's Reference** | : | BBMP/EE/BTP/WO/54/2022-23 |
| **Source of Sample** | : | Sample supplied by Agency |
| **Sample Condition** | : | Satisfactory |
| **Date of Receipt** | : | 29-06-22 |
| **Sample Type** | : | Birla Super 53grade |
| **Reference to BIS codes** | : | IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification ,<br>IS 4031 Part 4, (RA 2019) Determination of Consistency of Standard Cement Paste, Clause 5<br>IS 4031 Part 6, (RA 2019) Determination of Compressive Strength, Clause 6 |
| **Date of test** | : | 30-06-22 |
| **Environmental Conditions during test** | : | Temperature: 26°C<br>Humidity: 72% |

**Compressive Strength**

| Sl.No. | Physical properties | Results | Requirement as per IS 12269: 2013 |
|---|---|---|---|
| 1 | 3 Days | 28.5N/mm$^2$ | Not less than 27 N/mm$^2$ |
| 2 | 7 Days | 39.0N/mm$^2$ | Not less than 37 N/mm$^2$ |
| 3 | 28 Days | 58.5N/mm$^2$ | Not less than 53 N/mm$^2$ |

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**Quality Manager**

Assistant Executive Engineer
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## TEST REPORT ON COARSE AGGREGATES

| | | |
|---|---|---|
| **Lab ID** | : | **CP-2022-09-28-33** **Date: 30-06-22** |
| **Customer** | : | Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore. |
| **Address** | : | Vidyaranyapura Sub Division, BBMP, Bangalore |
| **Project Name** | : | Improvements to Roads and Drains at Deshabandunagara and Surrounding Areas in Ward No. 09 (Vidyaranyapura) |
| **Agency** | : | Sri. Nagoor Lokanadha Reddy, Flat No: 102, 1st Floor, No:02, MSNR Enclave, 2nd Cross, Manorayana Palya, R T Nagar Post, Bangalore-32 |
| **Customer's Reference** | : | BBMP/EE/BTP/WO/54/2022-23 |
| **Source of Sample** | : | Sample supplied by Agency |
| **Sample condition** | : | Satisfactory |
| **Date of Receipt** | : | 29-06-22 |
| **Sample Type** | : | 40mm down size coarse aggregate |
| **Reference to BIS codes** | : | IS: 383:2016 (Specification for Coarse and fine Aggregates )<br>IS: 2386 :1963(Part - 1,3,4) RA2021<br>IS 2386 Part 1: Particle Size and Shape<br>IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption<br>IS 2386 Part 4: Mechanical Properties |
| **Date of test** | : | 29-06-22 |

**SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 40MM DOWN COARSE AGGREGATE:**

**Total weight taken : 15000 grams**

| Sample No. | Sieve No. | Weight Retained in gms | Cumulative Weight Retained in gms | % Cumulative Weight Retained | % Passing | Required as per IS 383:2016 |
|---|---|---|---|---|---|---|
| 1 | 80 mm | 0 | 0 | 0.0 | 100 | 100 |
| 2 | 40 mm | 318 | 318 | 2.1 | 97.9 | 90-100 |
| 3 | 20 mm | 7441 | 7759 | 51.7 | 48.3 | 30-70 |
| 4 | 10 mm | 5152 | 12911 | 86.1 | 13.9 | 10-35 |
| 5 | 4.75 mm | 1711 | 14622 | 97.5 | 2.5 | 0-5 |
| 6 | Pan | 378 | 15000 | 100.0 | 0 | --- |



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## TEST REPORT ON COARSE AGGREGATES

**Lab ID** : **CP-2022-09-28-33** **Date: 30-06-22**

**PHYSICAL PROPERTIES**

| Sl.no | Tests | Result | Requirements as per IS:383-2016 |
|---|---|---|---|
| 1 | Flakiness Index(%) | 8.1 | Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate |
| 2 | Elongation Index(%) | 7.5 | |
| 3 | Specific Gravity | 2.61 | _ |
| 4 | Bulk Density(Loose) (Kg/l) | 1.38 | _ |
| 5 | Bulk Density(Compacted) (Kg/l) | 1.42 | _ |
| 6 | Water Absorption(%) | 0.25 | _ |

* The results obtained are satisfactory as per standard requirements.

**Note:**

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## TEST REPORT ON COARSE AGGREGATES

| | | |
|---|---|---|
| **Lab ID** | : | **CP-2022-09-28-33** **Date: 30-06-22** |
| **Customer** | : | Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore. |
| **Address** | : | Vidyaranyapura Sub Division, BBMP, Bangalore |
| **Project Name** | : | Improvements to Roads and Drains at Deshabandunagara and Surrounding Areas in Ward No. 09 (Vidyaranyapura) |
| **Agency** | : | Sri. Nagoor Lokanadha Reddy, Flat No: 102, 1st Floor, No:02, MSNR Enclave, 2nd Cross, Manorayana Palya, R T Nagar Post, Bangalore-32 |
| **Customer Reference** | : | BBMP/EE/BTP/WO/54/2022-23 |
| **Source of Sample** | : | Sample supplied by Agency |
| **Sample Condition** | : | Satisfactory |
| **Date of Receipt** | : | 29-06-22 |
| **Sample Type/ Size** | : | 20mm down size coarse aggregate |
| **Reference to BIS codes** | : | IS: 383:2016 (Specification for Coarse and fine Aggregates )<br>IS: 2386 :1963(Part - 1,3,4) RA2021<br>IS 2386 Part 1: Particle Size and Shape<br>IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption<br>IS 2386 Part 4: Mechanical Properties |
| **Date of test** | : | 29-06-22 |

**SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 20MM DOWN COARSE AGGREGATE:**

**Total weight taken : 5000 grams**

| Sample No. | Sieve No. | Weight Retained in gms | Cumulative Weight Retained in gms | % Cumulative Weight Retained | % Passing | Required as per IS 383:2016 |
|---|---|---|---|---|---|---|
| 1 | 40 mm | 0 | 0 | 0 | 100 | 100 |
| 2 | 20 mm | 255 | 255 | 5.1 | 94.9 | 90-100 |
| 3 | 10 mm | 2789 | 3044 | 60.9 | 39.1 | 25-55 |
| 4 | 4.75 mm | 1545 | 4589 | 91.8 | 8.2 | 0-10 |
| 5 | Pan | 411 | 5000 | 100 | 0 | _ |



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## TEST REPORT ON COARSE AGGREGATES

**Lab ID** : **CP-2022-09-28-33** **Date: 30-06-22**

### PHYSICAL PROPERTIES

| Sl.no | Tests | Result | Requirements as per IS:383-2016 |
|---|---|---|---|
| 1 | Flakiness Index(%) | 13.2 | Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate |
| 2 | Elongation Index(%) | 12.4 | |
| 3 | Specific Gravity | 2.65 | _ |
| 4 | Bulk Density(Loose) (Kg/l) | 1.53 | _ |
| 5 | Bulk Density(Compacted) (Kg/l) | 1.55 | _ |
| 6 | Water Absorption(%) | 0.22 | _ |
| 7 | Aggregate crushing Value(%) | 24.1 | Max 30% for Aggregates to be used in concrete for wearing Surface, In case Aggregate Crushing Value Exceeds 30% then the test for ten percent fines should be conducted for Aggregates to be used in concrete other than for wearing Surface. |
| 8 | Aggregate Impact Value(%) | 23.8 | 30% for Aggregates to be used in concrete for wearing Surface,<br>45% for Aggregates to be used in concrete other than for wearing Surface. |

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**R KARTHIK RECHAN**
Authorized Signature
**Quality Manager**


*End of Report*

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# TEST REPORT OF FINE AGGREGATE

**Lab ID** : **CP-2022-09-28-33** **Date: 30-06-22**

**Customer** : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

**Address** : Vidyaranyapura Sub Division, BBMP, Bangalore

**Project Name** : Improvements to Roads and Drains at Deshabandunagara and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

**Agency** : Sri. Nagoor Lokanadha Reddy, Flat No: 102, 1st Floor, No:02, MSNR Enclave, 2nd Cross, Manorayana Palya, R T Nagar Post, Bangalore-32

**Customer's Reference** : BBMP/EE/BTP/WO/54/2022-23

**Source of Sample** : Sample supplied by Agency

**Sample Condition** : Satisfactory

**Date of Receipt** : 29-06-22

**Sample Type** : Fine Aggregate

**Reference to BIS codes** : IS 383 : 2016 (Specification for Coarse and fine Aggregates)
IS: 2386 :1963(Part - 1, 3) RA2021
IS 2386 Part 1: Particle Size and Shape
IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption

**Date of test** : 29-06-22

**Total weight taken** : 1000 grams

| Sl.no | Sieve Size | Weight Retained (gms) | Cumulative Weight Retained (gms) | % Cumulative Weight Retained | % Passing | Requirement as per IS 383:2016 | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Grading Zone I | Grading Zone II | Grading Zone III | Grading Zone IV |
| 1 | 10 mm | 0 | 0 | 0.0 | 100.0 | 100 | 100 | 100 | 100 |
| 2 | 4.75 mm | 85 | 85 | 8.5 | 91.5 | 90-100 | 90-100 | 90-100 | 95-100 |
| 3 | 2.36 mm | 145 | 230 | 23.0 | 77.0 | 60-95 | 75-100 | 85-100 | 95-100 |
| 4 | 1.18 mm | 165 | 395 | 39.5 | 60.5 | 30-70 | 55-90 | 75-100 | 90-100 |
| 5 | 600 micron | 187 | 582 | 58.2 | 41.8 | 15-34 | 35-59 | 60-79 | 80-100 |
| 6 | 300 micron | 175 | 757 | 75.7 | 24.3 | 5-20 | 8-30 | 12-40 | 15-50 |
| 7 | 150 micron | 155 | 912 | 91.2 | 8.8 | 0-10 | 0-10 | 0-10 | 0-15 |
| 8 | Pan | 88 | 1000 | 100.0 | 0.0 | --- | --- | --- | --- |

**Result :The tested Sample Conforms to Grading Zone II**



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Assistant Executive Engineer
Vidyaranyapura Sub Division
BBMP, Bangalore - 97

# TEST REPORT OF FINE AGGREGATE

**Lab ID** : **CP-2022-09-28-33** **Date: 30-06-22**

## PHYSICAL PROPERTIES

| Sl.no | Tests | Result | Requirements as per IS 383:2016 |
|---|---|---|---|
| 1 | Water Absorption(%) | 1.5 | – |
| 2 | Specific Gravity | 2.59 | – |
| 3 | Material finer than 75 micron(%) | 7.9 | Uncrushed fine Aggregate Max 3%, Crushed Fine aggregate Max 15%, Mixed Fine aggregate Max 12%, Manufactured Fine aggregate Max 10% |

* The results obtained are satisfactory as per standard requirements.

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**Quality Manager**

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# TEST RESULTS OF STEEL

**Lab ID** : **CP-2022-09-28-33** **Date: 30-06-22**

**Customer** : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

**Address** : Vidyaranyapura Sub Division, BBMP, Bangalore

**Project Name** : Improvements to Roads and Drains at Deshabandunagara and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

**Agency** : Sri. Nagoor Lokanadha Reddy, Flat No: 102, 1st Floor, No:02, MSNR Enclave, 2nd Cross, Manorayana Palya, R T Nagar Post, Bangalore-32

**Customer's Reference** : BBMP/EE/BTP/WO/54/2022-23

**Source of Sample** : Sample supplied by Agency

**Sample Condition** : Satisfactory

**Date of Receipt** : 29-06-22

**Sample Type** : Sunvik

**Reference to BIS codes** : IS 1786-2008, IS:1608-2005(RA 2011), IS 1599-2019.

**Date of test** : 29-06-22

| Sl.No | Identification of sample | Grade of the sample | Diameter of the steel bar | Weight of the sample | Yield stress | Tensile strength | Elongation | Bend test | Rebend test |
|---|---|---|---|---|---|---|---|---|---|
| | | | (mm) | (kg/m) | (N/mm2) | (N/mm2) | (%) | | |
| 1 | Sunvik | Fe500 | 8 | 0.391 | 512 | 652 | 20.0% | Satisfactory | Satisfactory |
| 2 | Sunvik | Fe500 | 10 | 0.616 | 528 | 672 | 20.0% | Satisfactory | Satisfactory |
| 3 | Sunvik | Fe500 | 12 | 0.888 | 544 | 668 | 20.0% | Satisfactory | Satisfactory |

* The results obtained are satisfactory as per standard requirements.

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**R KARTHIK RECHAN**
**Authorized Signatory**
**Quality Manager**

CIVIL Pro Sig Date BANGALORE

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WATER TESTING | GEO TECHNICAL | PROJECT MANAGEMENT | SURVEYING SERVICES

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# TEST REPORT OF PRECAST COVER SLAB

| | | |
|---|---|---|
| **Lab ID** | : | **CP-2022-09-28-33** **Date: 09-07-22** |
| **Customer** | : | Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore. |
| **Address** | : | Vidyaranyapura Sub Division, BBMP, Bangalore |
| **Project Name** | : | Improvements to Roads and Drains at Deshabandunagara and Surrounding Areas in Ward No. 09 (Vidyaranyapura) |
| **Agency** | : | Sri. Nagoor Lokanadha Reddy, Flat No: 102, 1st Floor, No:02, MSNR Enclave, 2nd Cross, Manorayana Palya, R T Nagar Post, Bangalore-32 |
| **Customer's Reference** | : | BBMP/EE/BTP/WO/54/2022-23 |
| **Source of Sample** | : | Sample supplied by Agency |
| **Sample Condition** | : | Satisfactory |
| **Date of Receipt** | : | 05-07-22 |
| **Sample Type /Size** | : | Precast Cover Slab (100 mm Thick) |
| **Reference to BIS codes** | : | IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete |
| **Date of test** | : | 05/07/2022 |

| Sl. No. | Identification Mark | Diameter of the core | Height of the core | Weight of the core | Area | Failure Load | Core Compressive strength | Corrected Cylinder Compressive strength | Equivalent Cube Compressive strength |
|---|---|---|---|---|---|---|---|---|---|
| | | (mm) | (mm) | (kg) | (Sq.mm) | (KN) | ($N/mm^2$) | ($N/mm^2$) | ($N/mm^2$) |
| 1 | Cover Slab-1 | 75.51 | 100.48 | 1.116 | 4477 | 80.9 | 18.1 | 16.8 | 21.0 |
| 2 | Cover Slab-2 | 75.49 | 100.52 | 1.122 | 4475 | 82.3 | 18.4 | 17.1 | 21.4 |
| 3 | Cover Slab-3 | 75.50 | 100.51 | 1.118 | 4476 | 81.5 | 18.2 | 16.9 | 21.2 |

* The results obtained are satisfactory as per standard requirements.

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**Quality Manager**

Page 1/1
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Vidyaranyapura Sub Division
BBMP, Bangalore

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# TEST REPORT OF PRECAST COVER SLAB

**Lab ID** : **CP-2022-09-28-33** **Date: 09-07-22**

**Customer** : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

**Address** : Vidyaranyapura Sub Division, BBMP, Bangalore

**Project Name** : Improvements to Roads and Drains at Deshabandunagara and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

**Agency** : Sri. Nagoor Lokanadha Reddy, Flat No: 102, 1st Floor, No:02, MSNR Enclave, 2nd Cross, Manorayana Palya, R T Nagar Post, Bangalore-32

**Customer's Reference** : BBMP/EE/BTP/WO/54/2022-23

**Source of Sample** : Sample supplied by Agency

**Sample Condition** : Satisfactory

**Date of Receipt** : 05-07-22

**Sample Type /Size** : Precast Cover Slab (250 mm Thick)

**Reference to BIS codes** : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete

**Date of test** : 05/07/2022

| Sl. No. | Identification Mark | Diameter of the core | Height of the core | Weight of the core | Area | Failure Load | Core Compressive strength | Corrected Cylinder Compressive strength | Equivalent Cube Compressive strength |
|---|---|---|---|---|---|---|---|---|---|
| | | (mm) | (mm) | (kg) | (Sq.mm) | (KN) | ($N/mm^2$) | ($N/mm^2$) | ($N/mm^2$) |
| 1 | Cover Slab-1 | 200.56 | 250.47 | 2.689 | 31586 | 690.5 | 21.9 | 20.3 | 25.4 |
| 2 | Cover Slab-2 | 200.69 | 250.63 | 2.795 | 31627 | 715.5 | 22.6 | 21.0 | 26.3 |
| 3 | Cover Slab-3 | 200.74 | 250.85 | 2.843 | 31643 | 710.5 | 22.5 | 20.9 | 26.1 |

* The results obtained are satisfactory as per standard requirements.

**Note:**

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R KARTHIK RECHAN
Authorized Signatory
**Quality Manager**

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Page 1/1
****End of Report****

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P. Bangalore - 97

Format No: CP/TF/01

# TEST REPORT OF CEMENT CONCRETE CUBES

**Lab ID** : **CP-2022-09-28-33** **Date: 09/07/2022**

**Customer** : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

**Address** : Vidyaranyapura Sub Division, BBMP, Bangalore

**Project Name** : Improvements to Roads and Drains at Deshabandunagara and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

**Agency** : Sri. Nagoor Lokanadha Reddy, Flat No: 102, 1st Floor, No:02, MSNR Enclave, 2nd Cross, Manorayana Palya, R T Nagar Post, Bangalore-32

**Customer's Reference** : BBMP/EE/BTP/WO/54/2022-23

**Source of Sample** : Sample supplied by Agency

**Sample Condition** : Satisfactory

**Date of Receipt** : 04-07-22

**Customer ID** : Drain Bottom Slab

**Sample Type /Size** : 150X150X150 mm

**Sample grade/Age** : M20 / 7 Days Compressive Strength

**Reference to BIS codes** : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

**Date of test** : 09/07/2022

| Sl. No. | Identification Mark | Grade of concrete | Date of Casting | Date of Testing | Dimension of the Specimen (mm) | Cross sectional area (Sq.mm) | Weight of the sample (kg) | Failure Load (KN) | Compressive strength ($N/mm^2$) | Average Compressive Strength ($N/mm^2$) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Drain Bottom Slab | M20 | 02/07/2022 | 09/07/2022 | 151.03 X 151.72 X 150.95 | 22913 | 8.538 | 430.8 | 18.8 | 18.6 |
| 2 | Drain Bottom Slab | M20 | 02/07/2022 | 09/07/2022 | 151.65 X 151.40 X 150.34 | 22959 | 8.474 | 418.9 | 18.2 | |
| 3 | Drain Bottom Slab | M20 | 02/07/2022 | 09/07/2022 | 149.10 X 151.92 X 150.20 | 22653 | 8.419 | 421.9 | 18.6 | |

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Page 1/1
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Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P. Bangalore - 97

Format No: CP/TF/01

# TEST REPORT OF CEMENT CONCRETE CUBES

**Lab ID** : **CP-2022-09-28-33** **Date: 30/07/2022**

**Customer** : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

**Address** : Vidyaranyapura Sub Division, BBMP, Bangalore

**Project Name** : Improvements to Roads and Drains at Deshabandunagara and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

**Agency** : Sri. Nagoor Lokanadha Reddy, Flat No: 102, 1st Floor, No:02, MSNR Enclave, 2nd Cross, Manorayana Palya, R T Nagar Post, Bangalore-32

**Customer's Reference** : BBMP/EE/BTP/WO/54/2022-23

**Source of Sample** : Sample supplied by Agency

**Sample Condition** : Satisfactory

**Date of Receipt** : 04-07-22

**Customer ID** : Drain Bottom Slab

**Sample Type /Size** : 150X150X150 mm

**Sample grade/Age** : M20 / 28 Days Compressive Strength

**Reference to BIS codes** : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

**Date of test** : 30/07/2022

| Sl. No. | Identification Mark | Grade of concrete | Date of Casting | Date of Testing | Dimension of the Specimen | Cross sectional area | Weight of the sample | Failure Load | Compressive strength | Average Compressive Strength |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | (mm) | (Sq.mm) | (kg) | (KN) | ($N/mm^2$) | ($N/mm^2$) |
| 1 | Drain Bottom Slab | M20 | 02/07/2022 | 30/07/2022 | 149.36 X 149.02 X 149.33 | 22257 | 8.407 | 515.6 | 23.2 | 23.3 |
| 2 | Drain Bottom Slab | M20 | 02/07/2022 | 30/07/2022 | 151.73 X 150.75 X 151.06 | 22874 | 8.337 | 523.8 | 22.9 | |
| 3 | Drain Bottom Slab | M20 | 02/07/2022 | 30/07/2022 | 149.86 X 151.17 X 151.05 | 22655 | 9.052 | 540.3 | 23.9 | |

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Assistant Executive Engineer
Vidyaranyapura Sub Division
BBMP

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**Lab ID** : **CP-2022-09-28-33** **Date: 09/07/2022**

**Customer** : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

**Address** : Vidyaranyapura Sub Division, BBMP, Bangalore

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**Agency** : Sri. Nagoor Lokanadha Reddy, Flat No: 102, 1st Floor, No:02, MSNR Enclave, 2nd Cross, Manorayana Palya, R T Nagar Post, Bangalore-32

**Customer's Reference** : BBMP/EE/BTP/WO/54/2022-23

**Source of Sample** : Sample supplied by Agency

**Sample Condition** : Satisfactory

**Date of Receipt** : 04-07-22

**Customer ID** : Drain Bottom Slab

**Sample Type /Size** : 150X150X150 mm

**Sample grade/Age** : M20 / 7 Days Compressive Strength

**Reference to BIS codes** : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

**Date of test** : 09/07/2022

| Sl. No. | Identification Mark | Grade of concrete | Date of Casting | Date of Testing | Dimension of the Specimen | Cross sectional area | Weight of the sample | Failure Load | Compressive strength | Average Compressive Strength |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | (mm) | (Sq.mm) | (kg) | (KN) | ($N/mm^2$) | ($N/mm^2$) |
| 1 | Drain Bottom Slab | M20 | 02/07/2022 | 09/07/2022 | 149.14 X 151.08 X 151.30 | 22533 | 8.670 | 427.3 | 19.0 | 18.9 |
| 2 | Drain Bottom Slab | M20 | 02/07/2022 | 09/07/2022 | 150.16 X 149.04 X 150.33 | 22380 | 8.780 | 422.2 | 18.9 | |
| 3 | Drain Bottom Slab | M20 | 02/07/2022 | 09/07/2022 | 149.21 X 151.66 X 149.37 | 22629 | 8.368 | 427.4 | 18.9 | |

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B.B.M.P, Bangalore

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# TEST REPORT OF CEMENT CONCRETE CUBES

**Lab ID** : **CP-2022-09-28-33** **Date: 30/07/2022**

**Customer** : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

**Address** : Vidyaranyapura Sub Division, BBMP, Bangalore

**Project Name** : Improvements to Roads and Drains at Deshabandunagara and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

**Agency** : Sri. Nagoor Lokanadha Reddy, Flat No: 102, 1st Floor, No:02, MSNR Enclave, 2nd Cross, Manorayana Palya, R T Nagar Post, Bangalore-32

**Customer's Reference** : BBMP/EE/BTP/WO/54/2022-23

**Source of Sample** : Sample supplied by Agency

**Sample Condition** : Satisfactory

**Date of Receipt** : 04-07-22

**Customer ID** : Drain Bottom Slab

**Sample Type /Size** : 150X150X150 mm

**Sample grade/Age** : M20 / 28 Days Compressive Strength

**Reference to BIS codes** : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

**Date of test** : 30/07/2022

| Sl. No. | Identification Mark | Grade of concrete | Date of Casting | Date of Testing | Dimension of the Specimen | Cross sectional area | Weight of the sample | Failure Load | Compressive strength | Average Compressive Strength |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | (mm) | (Sq.mm) | (kg) | (KN) | ($N/mm^2$) | ($N/mm^2$) |
| 1 | Drain Bottom Slab | M20 | 02/07/2022 | 30/07/2022 | 151.00 X 151.19 X 150.74 | 22830 | 8.827 | 534.5 | 23.4 | 23.2 |
| 2 | Drain Bottom Slab | M20 | 02/07/2022 | 30/07/2022 | 151.13 X 149.87 X 151.44 | 22650 | 8.740 | 515.7 | 22.8 | |
| 3 | Drain Bottom Slab | M20 | 02/07/2022 | 30/07/2022 | 151.19 X 149.81 X 150.46 | 22651 | 8.452 | 527.5 | 23.3 | |

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**Quality Manager**

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Vidyaranyapura Sub Division
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M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

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# TEST REPORT OF CEMENT CONCRETE CUBES

**Lab ID** : **CP-2022-09-28-33** **Date: 09/07/2022**

**Customer** : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

**Address** : Vidyaranyapura Sub Division, BBMP, Bangalore

**Project Name** : Improvements to Roads and Drains at Deshabandunagara and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

**Agency** : Sri. Nagoor Lokanadha Reddy, Flat No: 102, 1st Floor, No:02, MSNR Enclave, 2nd Cross, Manorayana Palya, R T Nagar Post, Bangalore-32

**Customer's Reference** : BBMP/EE/BTP/WO/54/2022-23

**Source of Sample** : Sample supplied by Agency

**Sample Condition** : Satisfactory

**Date of Receipt** : 04-07-22

**Customer ID** : Drain Side Wall

**Sample Type /Size** : 150X150X150 mm

**Sample grade/Age** : M20 / 7 Days Compressive Strength

**Reference to BIS codes** : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

**Date of test** : 09/07/2022

| Sl. No. | Identification Mark | Grade of concrete | Date of Casting | Date of Testing | Dimension of the Specimen (mm) | Cross sectional area (Sq.mm) | Weight of the sample (kg) | Failure Load (KN) | Compressive strength ($N/mm^2$) | Average Compressive Strength ($N/mm^2$) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Drain Side Wall | M20 | 02/07/2022 | 09/07/2022 | 149.03 X 150.40 X 149.51 | 22415 | 8.628 | 403.7 | 18.0 | 18.4 |
| 2 | Drain Side Wall | M20 | 02/07/2022 | 09/07/2022 | 150.28 X 150.93 X 150.43 | 22681 | 8.579 | 427.9 | 18.9 | |
| 3 | Drain Side Wall | M20 | 02/07/2022 | 09/07/2022 | 151.53 X 149.38 X 149.74 | 22635 | 9.035 | 415.2 | 18.3 | |

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Assistant Executive Engineer
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M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

Format No: CP/TF/01

# TEST REPORT OF CEMENT CONCRETE CUBES

**Lab ID** : **CP-2022-09-28-33** **Date: 30/07/2022**

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**Address** : Vidyaranyapura Sub Division, BBMP, Bangalore

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**Agency** : Sri. Nagoor Lokanadha Reddy, Flat No: 102, 1st Floor, No:02, MSNR Enclave, 2nd Cross, Manorayana Palya, R T Nagar Post, Bangalore-32

**Customer's Reference** : BBMP/EE/BTP/WO/54/2022-23

**Source of Sample** : Sample supplied by Agency

**Sample Condition** : Satisfactory

**Date of Receipt** : 04-07-22

**Customer ID** : Drain Side Wall

**Sample Type /Size** : 150X150X150 mm

**Sample grade/Age** : M20 / 28 Days Compressive Strength

**Reference to BIS codes** : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

**Date of test** : 30/07/2022

| Sl. No. | Identification Mark | Grade of concrete | Date of Casting | Date of Testing | Dimension of the Specimen (mm) | Cross sectional area (Sq.mm) | Weight of the sample (kg) | Failure Load (KN) | Compressive strength ($N/mm^2$) | Average Compressive Strength ($N/mm^2$) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Drain Side Wall | M20 | 02/07/2022 | 30/07/2022 | 149.77 X 149.12 X 149.87 | 22334 | 9.045 | 514.7 | 23.0 | 23.1 |
| 2 | Drain Side Wall | M20 | 02/07/2022 | 30/07/2022 | 151.10 X 150.11 X 149.23 | 22681 | 8.774 | 507.4 | 22.4 | |
| 3 | Drain Side Wall | M20 | 02/07/2022 | 30/07/2022 | 151.37 X 150.52 X 151.94 | 22783 | 8.730 | 544.2 | 23.9 | |

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Authorized Signatory
**Quality Manager**

CIVIL Pro Sig Date BANGALORE


****End of Report****

Assistant Executive Engineer
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**Customer's Reference** : BBMP/EE/BTP/WO/54/2022-23

**Source of Sample** : Sample supplied by Agency

**Sample Condition** : Satisfactory

**Date of Receipt** : 04-07-22

**Customer ID** : Drain Side Wall

**Sample Type /Size** : 150X150X150 mm

**Sample grade/Age** : M20 / 7 Days Compressive Strength

**Reference to BIS codes** : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

**Date of test** : 09/07/2022

| Sl. No. | Identification Mark | Grade of concrete | Date of Casting | Date of Testing | Dimension of the Specimen (mm) | Cross sectional area (Sq.mm) | Weight of the sample (kg) | Failure Load (KN) | Compressive strength ($N/mm^2$) | Average Compressive Strength ($N/mm^2$) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Drain Side Wall | M20 | 02/07/2022 | 09/07/2022 | 149.70 X 151.52 X 149.19 | 22682 | 8.741 | 428.6 | 18.9 | 18.6 |
| 2 | Drain Side Wall | M20 | 02/07/2022 | 09/07/2022 | 149.70 X 150.07 X 149.75 | 22465 | 8.270 | 422.2 | 18.8 | |
| 3 | Drain Side Wall | M20 | 02/07/2022 | 09/07/2022 | 150.63 X 150.23 X 149.93 | 22629 | 8.547 | 407.8 | 18.0 | |

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Page 1/1
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Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P. Bangalore - 97

Format No: CP/TF/01

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**Lab ID** : **CP-2022-09-28-33** **Date: 30/07/2022**

**Customer** : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

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**Customer's Reference** : BBMP/EE/BTP/WO/54/2022-23

**Source of Sample** : Sample supplied by Agency

**Sample Condition** : Satisfactory

**Date of Receipt** : 04-07-22

**Customer ID** : Drain Side Wall

**Sample Type /Size** : 150X150X150 mm

**Sample grade/Age** : M20 / 28 Days Compressive Strength

**Reference to BIS codes** : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

**Date of test** : 30/07/2022

| Sl. No. | Identification Mark | Grade of concrete | Date of Casting | Date of Testing | Dimension of the Specimen | Cross sectional area | Weight of the sample | Failure Load | Compressive strength | Average Compressive Strength |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | (mm) | (Sq.mm) | (kg) | (KN) | ($N/mm^2$) | ($N/mm^2$) |
| 1 | Drain Side Wall | M20 | 02/07/2022 | 30/07/2022 | 151.62 X 151.49 X 150.53 | 22969 | 8.652 | 538.2 | 23.4 | 23.2 |
| 2 | Drain Side Wall | M20 | 02/07/2022 | 30/07/2022 | 149.23 X 150.15 X 149.08 | 22406 | 8.649 | 503.6 | 22.5 | |
| 3 | Drain Side Wall | M20 | 02/07/2022 | 30/07/2022 | 151.60 X 150.20 X 149.86 | 22771 | 8.449 | 539.0 | 23.7 | |

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**Quality Manager**

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Page 1/1
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Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

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**Source of Sample** : Sample supplied by Agency

**Sample Condition** : Satisfactory

**Date of Receipt** : 04-07-22

**Customer ID** : Drain Side Wall

**Sample Type /Size** : 150X150X150 mm

**Sample grade/Age** : M20 / 7 Days Compressive Strength

**Reference to BIS codes** : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

**Date of test** : 09/07/2022

| Sl. No. | Identification Mark | Grade of concrete | Date of Casting | Date of Testing | Dimension of the Specimen (mm) | Cross sectional area (Sq.mm) | Weight of the sample (kg) | Failure Load (KN) | Compressive strength ($N/mm^2$) | Average Compressive Strength ($N/mm^2$) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Drain Side Wall | M20 | 02/07/2022 | 09/07/2022 | 151.32 X 150.18 X 151.23 | 22725 | 8.535 | 425.8 | 18.7 | 18.4 |
| 2 | Drain Side Wall | M20 | 02/07/2022 | 09/07/2022 | 149.15 X 151.29 X 150.95 | 22566 | 8.107 | 415.8 | 18.4 | |
| 3 | Drain Side Wall | M20 | 02/07/2022 | 09/07/2022 | 149.91 X 151.48 X 151.88 | 22708 | 8.326 | 411.7 | 18.1 | |

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Page 1/1
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Vidyaranyapura Sub Division

Format No: CP/TF/01

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**Lab ID** : **CP-2022-09-28-33** **Date: 30/07/2022**

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**Customer's Reference** : BBMP/EE/BTP/WO/54/2022-23

**Source of Sample** : Sample supplied by Agency

**Sample Condition** : Satisfactory

**Date of Receipt** : 04-07-22

**Customer ID** : Drain Side Wall

**Sample Type /Size** : 150X150X150 mm

**Sample grade/Age** : M20 / 28 Days Compressive Strength

**Reference to BIS codes** : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

**Date of test** : 30/07/2022

| Sl. No. | Identification Mark | Grade of concrete | Date of Casting | Date of Testing | Dimension of the Specimen | Cross sectional area | Weight of the sample | Failure Load | Compressive strength | Average Compressive Strength |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | (mm) | (Sq.mm) | (kg) | (KN) | ($N/mm^2$) | ($N/mm^2$) |
| 1 | Drain Side Wall | M20 | 02/07/2022 | 30/07/2022 | 150.82 X 150.54 X 149.02 | 22703 | 8.200 | 531.8 | 23.4 | 23.1 |
| 2 | Drain Side Wall | M20 | 02/07/2022 | 30/07/2022 | 151.40 X 149.07 X 149.34 | 22569 | 8.836 | 513.1 | 22.7 | |
| 3 | Drain Side Wall | M20 | 02/07/2022 | 30/07/2022 | 151.07 X 151.06 X 150.62 | 22821 | 8.288 | 528.7 | 23.2 | |

* The results obtained are satisfactory as per standard requirements.

**Note:**

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R KARTHIK RECHAN
Authorized Signatory
**Quality Manager**

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Page 1/1
****End of Report****

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P. Bangalore

Format No: CP/TF/01

# TEST REPORT OF CEMENT CONCRETE CUBES

**Lab ID** : **CP-2022-09-28-33** **Date: 08/07/2022**

**Customer** : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

**Address** : Vidyaranyapura Sub Division, BBMP, Bangalore

**Project Name** : Improvements to Roads and Drains at Deshabandunagara and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

**Agency** : Sri. Nagoor Lokanadha Reddy, Flat No: 102, 1st Floor, No:02, MSNR Enclave, 2nd Cross, Manorayana Palya, R T Nagar Post, Bangalore-32

**Customer's Reference** : BBMP/EE/BTP/WO/54/2022-23

**Source of Sample** : Sample supplied by Agency

**Sample Condition** : Satisfactory

**Date of Receipt** : 04-07-22

**Customer ID** : Flagging Coarse

**Sample Type /Size** : 150X150X150 mm

**Sample grade/Age** : M15 / 7 Days Compressive Strength

**Reference to BIS codes** : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

**Date of test** : 08/07/2022

| Sl. No. | Identification Mark | Grade of concrete | Date of Casting | Date of Testing | Dimension of the Specimen (mm) | Cross sectional area (Sq.mm) | Weight of the sample (kg) | Failure Load (KN) | Compressive strength ($N/mm^2$) | Average Compressive Strength ($N/mm^2$) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Flagging Coarse | M15 | 01/07/2022 | 08/07/2022 | 150.77 X 149.71 X 150.72 | 22573 | 8.690 | 279.5 | 12.4 | 12.7 |
| 2 | Flagging Coarse | M15 | 01/07/2022 | 08/07/2022 | 151.97 X 150.00 X 150.59 | 22795 | 8.850 | 289.1 | 12.7 | |
| 3 | Flagging Coarse | M15 | 01/07/2022 | 08/07/2022 | 150.59 X 150.62 X 149.29 | 22683 | 8.896 | 293.6 | 12.9 | |

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Date.....
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Page 1/1
****End of Report****

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Format No: CP/TF/01

# TEST REPORT OF CEMENT CONCRETE CUBES

**Lab ID** : **CP-2022-09-28-33** **Date: 29/07/2022**

**Customer** : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

**Address** : Vidyaranyapura Sub Division, BBMP, Bangalore

**Project Name** : Improvements to Roads and Drains at Deshabandunagara and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

**Agency** : Sri. Nagoor Lokanadha Reddy, Flat No: 102, 1st Floor, No:02, MSNR Enclave, 2nd Cross, Manorayana Palya, R T Nagar Post, Bangalore-32

**Customer's Reference** : BBMP/EE/BTP/WO/54/2022-23

**Source of Sample** : Sample supplied by Agency

**Sample Condition** : Satisfactory

**Date of Receipt** : 04-07-22

**Customer ID** : Flagging Coarse

**Sample Type /Size** : 150X150X150 mm

**Sample grade/Age** : M15 / 28 Days Compressive Strength

**Reference to BIS codes** : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

**Date of test** : 29/07/2022

| Sl. No. | Identification Mark | Grade of concrete | Date of Casting | Date of Testing | Dimension of the Specimen | Cross sectional area | Weight of the sample | Failure Load | Compressive strength | Average Compressive Strength |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | (mm) | (Sq.mm) | (kg) | (KN) | ($N/mm^2$) | ($N/mm^2$) |
| 1 | Flagging Coarse | M15 | 01/07/2022 | 29/07/2022 | 149.52 X 150.34 X 151.25 | 22478 | 8.521 | 398.3 | 17.7 | 17.8 |
| 2 | Flagging Coarse | M15 | 01/07/2022 | 29/07/2022 | 151.47 X 150.34 X 151.34 | 22771 | 9.092 | 402.5 | 17.7 | |
| 3 | Flagging Coarse | M15 | 01/07/2022 | 29/07/2022 | 151.69 X 151.72 X 150.81 | 23015 | 8.445 | 412.8 | 17.9 | |

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Page 1/1
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Format No: CP/TF/01

# TEST REPORT OF CEMENT CONCRETE CUBES

**Lab ID** : **CP-2022-09-28-33** **Date: 08/07/2022**

**Customer** : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

**Address** : Vidyaranyapura Sub Division, BBMP, Bangalore

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**Agency** : Sri. Nagoor Lokanadha Reddy, Flat No: 102, 1st Floor, No:02, MSNR Enclave, 2nd Cross, Manorayana Palya, R T Nagar Post, Bangalore-32

**Customer's Reference** : BBMP/EE/BTP/WO/54/2022-23

**Source of Sample** : Sample supplied by Agency

**Sample Condition** : Satisfactory

**Date of Receipt** : 04-07-22

**Customer ID** : Flagging Coarse

**Sample Type /Size** : 150X150X150 mm

**Sample grade/Age** : M15 / 7 Days Compressive Strength

**Reference to BIS codes** : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

**Date of test** : 08/07/2022

| Sl. No. | Identification Mark | Grade of concrete | Date of Casting | Date of Testing | Dimension of the Specimen (mm) | Cross sectional area (Sq.mm) | Weight of the sample (kg) | Failure Load (KN) | Compressive strength ($N/mm^2$) | Average Compressive Strength ($N/mm^2$) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Flagging Coarse | M15 | 01/07/2022 | 08/07/2022 | 150.51 X 150.64 X 151.04 | 22673 | 8.590 | 280.9 | 12.4 | 12.4 |
| 2 | Flagging Coarse | M15 | 01/07/2022 | 08/07/2022 | 151.28 X 149.73 X 149.10 | 22651 | 8.607 | 290.1 | 12.8 | |
| 3 | Flagging Coarse | M15 | 01/07/2022 | 08/07/2022 | 149.15 X 151.38 X 149.61 | 22578 | 8.903 | 274.3 | 12.1 | |

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# TEST REPORT OF CEMENT CONCRETE CUBES

**Lab ID** : **CP-2022-09-28-33** **Date: 29/07/2022**

**Customer** : Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore.

**Address** : Vidyaranyapura Sub Division, BBMP, Bangalore

**Project Name** : Improvements to Roads and Drains at Deshabandunagara and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

**Agency** : Sri. Nagoor Lokanadha Reddy, Flat No: 102, 1st Floor, No:02, MSNR Enclave, 2nd Cross, Manorayana Palya, R T Nagar Post, Bangalore-32

**Customer's Reference** : BBMP/EE/BTP/WO/54/2022-23

**Source of Sample** : Sample supplied by Agency

**Sample Condition** : Satisfactory

**Date of Receipt** : 04-07-22

**Customer ID** : Flagging Coarse

**Sample Type /Size** : 150X150X150 mm

**Sample grade/Age** : M15 / 28 Days Compressive Strength

**Reference to BIS codes** : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

**Date of test** : 29/07/2022

| Sl. No. | Identification Mark | Grade of concrete | Date of Casting | Date of Testing | Dimension of the Specimen | Cross sectional area | Weight of the sample | Failure Load | Compressive strength | Average Compressive Strength |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | (mm) | (Sq.mm) | (kg) | (KN) | ($N/mm^2$) | ($N/mm^2$) |
| 1 | Flagging Coarse | M15 | 01/07/2022 | 29/07/2022 | 150.85 X 149.31 X 151.82 | 22525 | 8.950 | 397.5 | 17.6 | 17.8 |
| 2 | Flagging Coarse | M15 | 01/07/2022 | 29/07/2022 | 151.51 X 150.71 X 149.70 | 22834 | 8.544 | 403.7 | 17.7 | |
| 3 | Flagging Coarse | M15 | 01/07/2022 | 29/07/2022 | 151.10 X 150.45 X 149.09 | 22733 | 8.500 | 407.9 | 17.9 | |

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Quality Manager

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****End of Report****

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HIGHWAY & BUILDING MATERIALS TESTING LABORATORY | STRUCTURAL | ENVIRONMENTAL
WATER TESTING | GEO TECHNICAL | PROJECT MANAGEMENT | SURVEYING SERVICES

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# TEST REPORT ON PHYSICAL REQUIREMENTS OF SOLID CONCRETE BLOCKS

| | | |
|---|---|---|
| **Lab ID** | : | **CP-2022-09-28-33** **Date: 09-07-22** |
| **Customer** | : | Assistant Executive Engineer, Vidyaranyapura Sub Division, BBMP, Bangalore. |
| **Address** | : | Vidyaranyapura Sub Division, BBMP, Bangalore |
| **Project Name** | : | Improvements to Roads and Drains at Deshabandunagara and Surrounding Areas in Ward No. 09 (Vidyaranyapura) |
| **Agency** | : | Sri. Nagoor Lokanadha Reddy, Flat No: 102, 1st Floor, No:02, MSNR Enclave, 2nd Cross, Manorayana Palya, R T Nagar Post, Bangalore-32 |
| **Customer's Reference** | : | BBMP/EE/BTP/WO/54/2022-23 |
| **Source of Sample** | : | Sample supplied by Agency |
| **Sample Condition** | : | Satisfactory |
| **Date of Receipt** | : | 05-07-22 |
| **Sample Type/Size** | : | Solid concrete blocks size (400X150X200)mm |
| **Reference to BIS codes** | : | IS : 2185 (Part 1) : 2005(RA 2020) Concrete Masonry Specification Part 1:Hollow and Solid Concrete Blocks (Dimensions -Annex-B, Clause 9.2 and 10 , Block density Annex -C Clause 9.3 and10, Compressive strength Annex -D Clause 9.4 and 10, Water absorption Annex -E Clause 9.5 and 10) |
| **Date of test** | : | 05-07-22 |

**BLOCK DENSITY:**

| Sl. No. | Measurement of overall Dimensions of Individual Blocks | | | Overall Volume of the Block in Cubic Centimetres | Weight of Oven Dried Block in Kilograms to the nearest 10 Gram | Block Density in Kg/cum*$10^6$ | Avg.Block Density in (Kg/cum) | As per IS 2185(Part 1) :2005 (RA 2010) |
|---|---|---|---|---|---|---|---|---|
| | Length | Breadth | Height | | | | | |
| | mm | mm | mm | ($Cm^3$) | Kg | $Kg/m^3$ | $Kg/m^3$ | |
| 1 | 400 | 152 | 203 | 12342 | 22.403 | 1815.1 | 1879.0 | Not less than 1800$Kg/m^3$ |
| 2 | 398 | 149 | 200 | 11860 | 23.505 | 1981.8 | | |
| 3 | 398 | 151 | 201 | 12080 | 22.225 | 1839.9 | | |

**WATER ABSORPTION:**

| Sl. No. | Wet weight after water absorption | Dry weight (Oven dry) | Water Absorption | Avg.Water Absorption | As per IS 2185(Part 1):2005 (RA 2010) |
|---|---|---|---|---|---|
| | kg | kg | % | % | |
| 1 | 24.91 | 23.69 | 4.89 | 4.25 | Shall not be more than 10% by mass |
| 2 | 25.57 | 24.48 | 4.28 | | |
| 3 | 24.44 | 23.57 | 3.59 | | |



Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P. Bangalore - 97

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**Lab ID** : **CP-2022-09-28-33** **Date: 09-07-22**

**DIMENSION ANALYSIS**

| Sl.no | Length mm | Breadth mm | Height mm | Requirement as per IS 2185(Part 1):2005 |
|---|---|---|---|---|
| 1 | 404 | 153 | 201 | Length : ± 5mm<br>Breadth : ± 3mm<br>Height : ± 3mm |
| 2 | 403 | 150 | 203 | |
| 3 | 403 | 149 | 199 | |
| 4 | 403 | 151 | 202 | |
| 5 | 401 | 150 | 200 | |
| 6 | 400 | 152 | 200 | |
| 7 | 400 | 150 | 203 | |
| 8 | 403 | 149 | 200 | |
| 9 | 400 | 151 | 203 | |
| 10 | 403 | 150 | 203 | |
| 11 | 400 | 151 | 201 | |
| 12 | 402 | 149 | 202 | |
| 13 | 401 | 152 | 199 | |
| 14 | 400 | 152 | 201 | |
| 15 | 401 | 149 | 199 | |
| 16 | 403 | 151 | 203 | |
| 17 | 401 | 152 | 203 | |
| 18 | 403 | 153 | 203 | |
| 19 | 399 | 152 | 200 | |
| 20 | 402 | 149 | 203 | |
| **Average of 20** | **402** | **151** | **201** | |



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**Lab ID** : **CP-2022-09-28-33** **Date: 09-07-22**

**COMPRESSIVE STRENGTH:**

| Sl. No. | Size of solid block | | Area | Failure Load | Compressive strength | Average Compressive strength |
|---|---|---|---|---|---|---|
| | Length | Breadth | | | | |
| | mm | mm | ($mm^2$) | (KN) | $N/mm^2$ | ($N/mm^2$) |
| 1 | 400 | 153 | 61156 | 249.3 | 4.1 | 4.1 |
| 2 | 403 | 150 | 60447 | 235.6 | 3.9 | |
| 3 | 403 | 149 | 60132 | 245.8 | 4.1 | |
| 4 | 403 | 151 | 60734 | 238.8 | 3.9 | |
| 5 | 401 | 150 | 60093 | 247.7 | 4.1 | |
| 6 | 400 | 152 | 60926 | 255.2 | 4.2 | |
| 7 | 400 | 150 | 60081 | 238.8 | 4.0 | |
| 8 | 403 | 149 | 60004 | 270.6 | 4.5 | |

**As per IS Requirements (Table 2, Clause 5.1, 5.2 and 9.4)**

| Compressive strength | | |
|---|---|---|
| Grade | Minimum average | Minimum Individual units. |
| C (5.0) | 5.00 $N/mm^2$ | 4.00 $N/mm^2$ |
| C (4.0) | 4.00 $N/mm^2$ | 3.20 $N/mm^2$ |

* The Results Obtained are Satisfactory as per Standard Requirements

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**R KARTHIK RECHAN**
Authorized Signatory
**Quality Manager**

CIVIL PRO Sig Date BANGALORE


****End of Report****

Assistant Executive Engineer
Vidy... Sub D...

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